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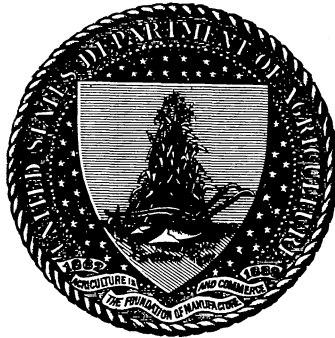
FARMERS' BULLETIN No. 62.

MARKETING FARM PRODUCE.

BY

GEORGE G. HILL,

Formerly Manager and Editor of The American Farmer, Illinois.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.

1897.

LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF PUBLICATIONS,
Washington, D. C., September 24, 1897.

SIR: I have the honor to transmit herewith an article on Marketing Farm Produce, prepared by Mr. George G. Hill. This article contains practical suggestions relating to the preparation of fruits, vegetables, and meats for market, especially as regards the packing, which it is believed will be of value to farmers generally. It is almost needless to say that it is not designed for orchardists and truck gardeners on a large scale, to whom the requirements of the trade are thoroughly familiar. The character of the matter involves reference to such a variety of products as to closely touch the work of several of the divisions of the Department. It was, therefore, submitted to the chiefs of divisions specially interested, and having been approved by them, I have the honor to recommend its publication as No. 62 of the Farmers' Bulletin series.

Respectfully,
HON. JAMES WILSON, *Secretary.*

GEORGE WM. HILL, *Chief.*

CONTENTS.

	Page
Introduction.....	3
The trade in farm produce.....	5
General rules.....	6
Packing.....	9
The commission merchant.....	10
Particular directions.....	11
Butter, eggs, poultry, and game.....	11
Meats and potatoes.....	14
Small fruits.....	15
Apples, peaches, pears, etc.....	17
Vegetables.....	21
Honey.....	27

ILLUSTRATIONS.

	Page.
FIG. 1. Section of shipment of carelessly packed fruit.....	4
2. Sixteen-quart case.....	15
3. Quart box adapted to 16-quart case, inverted to show raised bottom ..	16
4. Thirty-two quart Gift crate.....	16
5. Interior section view of 32-quart Gift crate.....	17
6. One-fifth bushel Climax basket.....	18
7. Peach crates and baskets.....	19

MARKETING FARM PRODUCE.

INTRODUCTION.

To anyone who will take the trouble to make even a cursory examination of the markets of any of our large cities it will be evident that there is ample room for improvement in the manner of marketing farm produce. A very little additional inquiry into the subject will reveal a condition of things which, involving as it does a waste of material and labor on the part of the producer aggregating an enormous loss, may be described without exaggeration as disastrous. It has been asserted with much truth that the success of the average farmer depends upon an aggregate of small profits, and it may be stated with equal truth that failure is often, if not usually, due to an aggregate of small losses.

The waste in American households has become proverbial, and it is popularly believed, and with good grounds, that the waste of an average American household would support an average French or German family. This loss, however, falls upon the consumer, whether farmer or townsman, whereas that which it is the purpose of this bulletin to discuss, namely, the loss due to ignorance or carelessness in marketing farm products, falls upon the producer.

Genius has been described by some great writer as "the art of taking infinite pains." Whether this be so or not, it can not be denied that in marketing farm products the art of taking infinite pains is essential to profit, and the lack of it insures certain loss. Of this anyone who will take a short walk through the markets or market streets of our cities or visit the wharves or depots where farm products are extensively handled can speedily convince himself. On every side he will see farm produce of good quality selling at reduced prices, owing to the form or manner in which it is put up, and, in not a few cases, cast aside by the dealers as not worth handling, owing to a damaged condition, which with a little care would have been avoided. In such cases the only profit accrues to the transportation companies, whose charges for carrying freight of course depend not upon quality but quantity. The aggregate sum yearly paid to railroads and steamships for carrying farm products which on arrival prove to be unsalable no one can estimate, but it must foot up enormously, to say nothing of the freight charges paid on goods sold far below market rates because put up carelessly or in unsuitable or unpopular packages.

During the past season one of the employees of the Department of Agriculture witnessed a striking example of transporting agricultural products under conditions which would inevitably result in the destruction of the entire shipment on arrival at its destination. A boat load of fruit on the way to the Washington market, chiefly blackberries and cherries, all of which had cost time and money to raise and pick and pack, was so carelessly packed in packages, buckets, boxes, and barrels of all sorts, shapes, and sizes that the whole was rapidly spoiling. In some of the pails and boxes the blackberries were already fermenting and the boat's deck was running red with the juice of the crushed berries. The only profit on this consignment was to the transportation company, whose charges are, of course, just as high on carelessly packed as on carefully packed fruit. To the shippers there would be a money loss for freight, to say nothing of useless time and labor spent. Yet,



FIG. 1.—Section of shipment of carelessly packed fruit.

properly selected and packed, a very large portion of the fruit in question would have reached its destination in good order and been sold at a profit for the shippers. Fig. 1 shows a section of this shipment of carelessly packed fruit.

In these days of keen competition buyers pick and choose to an ex-

tent not realized by one who has not witnessed the disposal of goods put on the market. Now, call it discrimination or call it "finickiness," as you please, it is nevertheless a condition which the intelligent producer will not fail to study and prepare himself to meet, and in all lines of business it is only by studying and catering to the tastes of the buyers that the highest prices can be obtained.

Many farmers seem to ignore the conditions attending the journey which their wares must take before they reach the eyes and hands of the consumers. Methods of transportation, customs of the trade, the market's "fashions," if one may use the term, in the style, size, and form of packages—all these call for careful consideration. This is well understood by manufacturers who study the markets for their wares as carefully as they do the methods of improving their goods or cheapening the cost of their production, and so, growing the crop is only

half the farmer's business. He must not only produce what people want, but put his goods on the market in the shape which best commends itself to the buyers. Instances are not wanting where neglect of these important considerations have not only resulted in immediate losses, but where an important trade has been transferred to other markets and lost for years, and perhaps permanently, to an entire section or country. It has been shown beyond question that the change was not owing to any superiority in the quality of the goods, but simply because the successful competitors paid attention to details and took "infinite pains" to satisfy the convenience, the tastes, and the fancies—in some cases the whims—of the buyers.

In a recent number of the *Journal of the Royal Agricultural Society of England* the loss of a profitable poultry trade in Ireland and its transfer to Brittany, France, is explained at length, and is shown to be due entirely to the efforts made by the shippers in the latter country to suit the convenience of the dealers and to please the eye of the consumers.

A leading Liverpool provision merchant accustomed to supply grocers in the north of England with geese and turkeys for the Christmas trade offers this explanation: The birds are wanted, it seems, of a fixed weight; some wanting birds from 8 to 10 pounds, others from 10 to 12 pounds, and so on up to 14 and 16 pounds. The French feeders contract to deliver a certain number of birds of a certain weight; when ready for market they are all classified according to weight, and neatly packed in uniform cases containing 10, 15, or 20 birds. On the other hand, he declares, the Irish birds are packed without neatness or uniformity as to weight, in all sorts of boxes or cases, some containing 50 birds, some 20, and so on, birds in the same case varying in weight from 5 to 16 pounds. His conclusion is, "It is so much trouble to us to handle these and select the different weights that any profit we can make on them is not remunerative."

In certain respects the tastes of consumers vary according to the markets of different sections—what does very well in the East may not do in the West, and vice versa. Even the various cities have their special requirements, especially marked in regard to all food products. This or that will do in Boston that will not do in New York. Chicago exacts this or that which is not essential in St. Louis, and so on. Hence, the farmer must carefully study the requirements of the market to which he is tributary. In the present bulletin, while many of the observations of the writer were made in the Chicago market, yet, as far as possible, pains have been taken to present practical suggestions adapted to all our leading markets, and the general principles illustrated are equally applicable everywhere.

THE TRADE IN FARM PRODUCE.

The trade in the varieties of produce under consideration is so organized that between the producer and the consumer it generally, except

in the case of fruits, which are usually shipped by the grower, passes through the hands of three middlemen, viz, the local buyer and shipper, the commission man, and the retail grocer. This has a tendency to leave the producer in ignorance of the tastes of the consumer, which are invariably the ultimate standards by which the values of his produce are fixed. In some instances far-seeing shippers take pains to acquaint their clients with the demands of the market to which they ship. In others they endeavor to augment their own profits by buying at the lowest prices and repacking or otherwise adapting the goods to the requirements of their customers, and more commonly they simply accept the produce as they find it, ship it practically as they receive it, and take such profit as they can obtain with the least effort.

It is not within the scope of this paper to discuss the present organization of the trade, but rather, taking the trade as it is, to give to the producer and shipper the benefit of such information as can be obtained by a careful study of the situation at the market end, and so enable both to obtain higher prices. In this connection it may be well to state that the information offered herein has been obtained from reliable and extensive commission men, each an expert in his own line, and from careful and extensive observation in the market streets of Chicago, the largest interior market for agricultural produce.

It may not be amiss, before proceeding to discuss packing, to present a plea in favor of selling by weight eggs and many vegetables which are handled in bulk and do not reach consumers in the original packages. This would inure quite as much to the benefit of the producer as to that of the consumer. It is essentially fair to both. In the case of original packages destined to eventually find their way into the hands of the consumers, the producer's best method to protect himself from dishonest competitors is to mark the exact measured contents of his package. If this practice were to be generally adopted unmarked packages would soon be at a discount.

GENERAL RULES.

While each of the various products of the farm and garden has to a greater or less extent its own particular characteristics, and requires a more or less different treatment, there are some general rules which apply equally to every kind of produce and to every market and which are of the utmost importance. The cardinal virtues in preparing all kinds of produce for market are neatness, cleanliness, and uniformity. The fact that the goods packed are to be eaten should never be lost sight of, nor should it be forgotten that if they are to bring the very highest prices they must be sold to people whose appetites are not easily tempted, but who have the money to pay for practically everything they crave, and who will and do pay well for the extra attractiveness which tempts them. With these facts in view the great importance of neatness and cleanliness is easily apparent. Nor is it safe ever to aim

at any but the highest prices for good produce, for should a shipment deficient in any way as to style, form, neatness, etc., happen to reach the market at a time when either the demand is light or the supply excessive, it will remain unnoticed until the "strictly fancy" goods have been picked up by the buyers, and then, the demand having been supplied, must await the next day's buyers, suffering severely by the delay and eventually being either sold to peddlers for perhaps less than the freight charges or hauled to the "dump," a total loss.

The following is a sample of an everyday occurrence: Two fine lots of radishes will come to market, both lots of the finest quality. One lot will be made up into bunches, in each of which the radishes will be of equal size and the bunch neatly tied. In the other the bunches will contain radishes of various sizes and the bunches be clumsily tied. The first buyer that comes along will snap up the first lot at a "fancy" price, while the second lot will be neglected until the demand is exhausted, and will ultimately sell for little or nothing. The same difference may be seen in several lots of carrots, careful washing proving an important factor with this and other roots. Neatness and attractiveness invariably pay well for the extra trouble expended.

Undoubtedly cleanliness is included to a considerable extent under the heading of neatness, but so important is it that it is deemed worthy of separate consideration. It is found lacking more often probably in the preparation of fruit than of other produce. Too often juice-stained cases injure the sale of really choice berries, or the dirty finger marks of the pickers on the boxes will turn the buyer away. It is needless to say that the presence of sticks, leaves, or other rubbish invariably injures the sale. Even potatoes have sold more readily because marketed in clean, well-filled sacks.

Uniformity is of the greatest importance and requires a little more effort. Some varieties of produce are invariably marketed in uniform packages, the 30-dozen egg case, for instance, being the universal standard, but others, particularly fruits and vegetables, are put up in various packages, and while some pertinent suggestions may be made, the only safe rule to follow is to ascertain the requirements of the market or markets to which you expect to ship, and be guided by them. It may, however, be accepted as a practically unvarying truth that the finest produce will not bring the highest prices if packed in unusual packages. The writer saw an instance of this recently:

A Texas concern, new in the business, sent its fine crop of Gem melons to market in boxes containing $1\frac{1}{2}$ bushels, the usual package in this market being a half-bushel basket. The commission merchant who received the consignment, although recognized as a leader in Gems, tried in vain to secure a higher price for the more generous boxes, but was finally obliged to sell them at the then market price for half bushels, viz, \$1.25. Fortunately the producer was present when the shipment arrived and immediately telegraphed his associates to ship Gems

thereafter in nothing but half-bushel baskets. As a consequence, the last shipment from that source, consisting of 500 bushels in 1,000 half-bushel baskets, sold for exactly the same amount as each of the two previous shipments, which aggregated 1,500 bushels each. Needless to say, that shipper will study the peculiarities of his market before making further shipments.

The above may seem like an exaggeration, but it was an actual occurrence, and the principle may be verified any day. The explanation is simple: The retailer becomes used to a certain sized package and knows immediately of how many divisions it is susceptible, if it is to be divided at all, and so can easily find its selling price and estimate his profit. New packages require new calculations, which the retailer has little time to make, and which he will not undertake unless obliged to. In the instances of the Gems referred to, they would meet with ready sale in half-bushel baskets, not only the size of the package but its convenience, the baskets being provided with bails or handles, particularly adapting them to the retail trade. The $1\frac{1}{2}$ -bushel boxes were too large for retail consumption and the packages too clumsy to be conveniently handled. Their purchase necessitated the retailer's providing additional baskets and making the necessary subdivisions, for all of which he could ill afford the time and for which the producer paid handsomely.

Honesty should constitute the next general principle to be observed. The mere mention of it may appear out of place in a paper of this nature, but it is not from a moral but from a money-making standpoint that it is here considered. There is probably no business to which the adage "Honesty is the best policy" so aptly applies, and it seems as though there were no legitimate business in which it is so often disregarded. We believe it can be safely said that in every instance when petty deception is attempted it proves a boomerang. Probably the dishonesty most commonly practiced is improperly "facing" packages, such as barrels of potatoes, apples and other fruits, baskets of peaches, and particularly boxes of berries. The trick has been tried so often that everyone, even the most inexperienced buyer, looks out for it. Before buying a case of berries every buyer will take out several boxes and one after another upset them into his hand. This, of course, exposes practically all the berries in the box, and if any deception has been attempted he is apt to lose faith in the entire shipment. With baskets such as peaches, plums, etc., are shipped in, several slits are cut in the sides, thus exposing the contents from top to bottom. Sharp hatchets are used to remove pieces from the sides of barrels, etc. But not only is immediate discovery almost inevitable, but even when the shipper is successful in fooling the buyer, the latter, discovering that he has been deceived, not only refuses ever after to purchase goods coming from the same shipper, but relates the story to his fellows—the story usually growing as it travels—until it not infrequently happens

that the shipper's goods are practically boycotted, even the most fancy stock being neglected because it bears the shipper's name, trade-mark, or number.

On the other hand, painstaking care and patience will generally result in building up for the shipper an enviable reputation, securing for his shipments the top, sometimes a little above the top, of the market, because of their known unvarying good quality. When a producer desires to build up such a reputation, it will pay him to adopt a brand, as, for instance, "The Star," having first ascertained from his commission merchant that his brand will not interfere with any other on the market. He should then make it a rule, from which there must never be any deviation, to use it only on his choicest products, omitting the brand and using only his regular number on any shipment that can not be rated "strictly fancy." Such discrimination against the poor qualities of one's own product requires strength of character and firmness of purpose, but such a policy steadfastly pursued will result in a reputation for the goods bearing the adopted brand which will never fail to obtain for them the very top of the market.

PACKING.

Packing is, after the quality of the produce, the next most important consideration. A little study of the route your produce must take to reach the consumer will convince you of this. A typical trip will be as follows: Several miles ride in a spring wagon from farm to railroad, over a more or less rough road; then 10 to 500, or even 1,000, miles on the railroad; careless, hurried handling by trainmen loading the produce on the wagons of the commission merchant, and hauling over rough city pavements to his store; exposure for some time, and another haul to the store of the retailer, where it is again exposed for sale, and usually another haul at lively speed to the home of the consumer. Consider what this means to tender fruit or vegetables, and the necessity of extreme care becomes obvious. To pack properly requires experience, but some practical suggestions may be given.

On a farm whence considerable truck is shipped there should be a packing shed if possible. A tight roof on poles is best, as the more air and light there is the better. Decay is the great enemy to be guarded against. Heat and moisture are the greatest promoters of decay. Wherever possible permit your fruit or vegetables to cool from the heat of the day before packing. Make sure they are perfectly dry and packed tightly, taking care to bruise nothing. Bruising liberates moisture, which in turn produces decay. Either too tight or too loose packing results in bruising, for if after being shaken down in transportation there is room in the packages for the contents to shake about they will certainly be bruised. In packing fruit, particularly, let the degree of ripeness in each package be uniform. When hard, unripe fruit is put in the same package with tender, ripe fruit the latter will

be bruised and all decayed. Where it is possible, oversee the loading of the car and see that space is left for free circulation of air between the boxes, crates, etc., as this will do much to prevent heating and decay.

THE COMMISSION MERCHANT.

In some instances the offices of the local buyer may be dispensed with; in others they are indispensable. The commission merchant must be regarded as a necessity. He is the agent of the shipper or producer, representing him and acting for him in the large markets at far less cost to the shipper than would be attendant on the latter's coming to the city to market his own wares.

As a class, commission merchants do not stand high in the farmers' favor; but, divested of all prejudice, the fact is that commission merchants are no better and no worse than their fellows in other lines of trade. While no doubt there are some who are neither honest nor reliable, still, unless we are prepared to believe that the majority of men are lacking in these respects, we must be prepared to admit that the majority of the commission merchants are both honest and reliable.

It is to the interest of the commission merchant to secure the highest prices for the goods consigned to him, because his compensation consists of a percentage on the selling price. The names of reliable commission merchants are easily obtained, and they are always ready to explain their method of doing business and render every assistance to the inexperienced shipper. They are generally divided into four classes: Butter, cheese, and egg handlers; fruit and vegetable dealers; poultry and game handlers; and specialists. Most commission merchants will handle anything, but prefer consignments in their own particular lines. Many have acquired reputations in special lines, so that one merchant may be known as headquarters for potatoes, another for honey, another for imported fruits, another for wool, and so on. Extensive shippers usually acquaint themselves with the specialties of various merchants and ship to each his specialty.

A few words as to the dishonest commission merchant will not be amiss. Like every other legitimate business, the commission business has its impostors, and as they are sometimes difficult to detect, for a time at least, they have done serious injury to legitimate commission men. Before consigning goods to an unknown commission merchant the shipper should always require references. Nor is it safe to content oneself with the fact that the merchant offers as references a number of well-known names, as this is often done without the knowledge of the persons named. Write to the persons referred to and satisfy yourself of the reliability of the merchant before shipping to him, and then you may rest assured that your goods will bring the best prices their condition and that of the market afford.

Beware of being tempted by market quotations a little higher than

those sent you by your regular merchant. High quotations are the favorite bait of the impostor.

There is also a legal point which it is well to bear in mind. In most, if not all, States, when a commission merchant receives goods on consignment he becomes the shipper's agent, and any attempt to defraud his principal is a felony punishable by fine or imprisonment, or both. Not so if he buys the goods outright, promising to pay for them a stated price. In the latter case the shipper's only recourse in case he fails to receive the contract price is a civil suit, resulting in a judgment usually worth no more than the paper it is written on. For this reason dishonest merchants frequently offer to buy outright. Too great care can not be exercised in this respect. When a direct sale is made, except to a well-known house of good reputation, the safest method of procedure is for the shipper to consign the goods to his own order, making draft through bank or express company, and attaching to it the bill of lading received from the railroad company, properly indorsed. The bank or express company will then present the draft and surrender the bill of lading only on payment, so that the commission merchant can not obtain the goods until he has paid for them.

PARTICULAR DIRECTIONS.

While again emphasizing the necessity of studying the condition and demands of your own particular market or markets, we append more particular directions under the various heads noted.

BUTTER, EGGS, POULTRY, AND GAME.

Butter.—There is probably no product which brings the farmer better returns for his labor and investment than butter, when properly made and marketed. On the other hand, there are few things so easily ruined in the making. Of late years the creameries have supplied a large portion of the best butter, but there is still a good demand for high-quality dairy butter. The standard packages are tubs which contain 20, 30, 40, and 60 pounds, respectively. The 60-pound tub is the size most used by creameries, but the average farmer will find a smaller size more satisfactory, as it will usually take considerable time and a number of churnings to fill the largest tubs, all of which is detrimental to the product. Uniformity of the entire tub is of the utmost importance; while the more uniform the entire product, the better. Butter tubs are usually made of ash or spruce. The spruce tub is regarded with the greatest favor in Boston and throughout the New England States and in the New Orleans market. Elsewhere in this country the tub made of ash is preferred.

Nothing is said here about quality. We will suppose that to be the best, but even the best butter can not bring the best price unless the package is suitable as to style and size.

It is almost needless to say that a fine high flavor is of the greatest importance in determining the price, although the finest flavor in the world will not atone for streaked coloring. Cleanliness of the tubs is essential. Much butter is being exported now, and so important is this point considered that immediately on purchase the exporters bag all tubs in burlap to preserve their clean, fresh appearance. In some instances the best prices can be obtained by working up a trade with some near-by retailer, when it will pay to pack in the small bail boxes; but if your output is to go through the hands of a commission merchant, the regulation tubs will be found most satisfactory. In this connection a few words of caution may be added: If for any reason your butter is "off," don't ship it. It don't pay to ship any but the best, and butter which is off in flavor is more than likely to deteriorate rapidly, and eventually sell as "grease." With choice butter firm at 12 cents, "grease" was selling recently at 4 cents, and no doubt that, except for the amount of care expended, the "grease" cost as much to make as the choice butter.

Eggs.—There is no variation in the packages for eggs. They are invariably shipped in the standard case, which contains 30 dozen. Any commission merchant will furnish cases free when the shipper will promise shipments of any considerable size. Of course, only strictly fresh eggs should be shipped, and, more than that, no doubtful eggs and no soiled eggs should ever be put into a case for market. There is about a strictly fresh egg a certain "bloom" for which buyers look. This bloom disappears with time or is rubbed off with handling, therefore eggs should be handled as little as possible.

Poultry.—Directions for the preparation of poultry for market are so often repeated as to be almost hackneyed, and yet they are all too frequently neglected. Poultry is sent to market both alive and dressed. In summer it is necessary to ice-dressed poultry, and for that reason much more is shipped alive than during the cold weather, when shipping alive means simply paying unnecessary freight on waste. However, no rules can be given as to when poultry should be dressed and when not. The only safe method is to ascertain the requirements of your own market. When shipping alive do not crowd too close in the crate. It results in such heavy shrinkage in the birds that it more than offsets the slight saving in transportation charges. Any commission merchant who handles poultry will send you crates free, you paying only transportation charges.

See that the birds are well fed and watered before leaving home. Put a small amount of green stuff into the crate, as, for instance, cabbage attached to the top (half a head at each end). This the fowls can eat easily, it will not get fouled, and will help to keep the birds in health, besides saving them from the intense thirst from which they frequently suffer when they receive only dry food. If the journey is short the cabbage will be sufficient, but if long some dry food will have to be provided.

When it is possible let the fowls be all of one color. If they are all of one breed better still. A crate of pure-bred fowls, or even a uniform lot of half-breeds, never fails to attract attention. If at all possible, let their ages be uniform in each crate; crating old birds by themselves, springs by themselves, and so on, always pays.

Dressed poultry, except ducks and geese, is best packed in barrels. The birds should not have food for twenty-four hours before killing. Killing is best done by running a sharp knife through the roof of the mouth, making a sufficient wound to bring the blood freely. Hang by the feet and allow all the blood to escape. Do not remove the head, feet, crop, or intestines. Pick the legs dry, and holding by the legs and head dip three times in water just below the boiling point. Keep the head out of the hot water. If the head is dipped, it discolors the comb and shrinks the eyes, giving buyers the impression that the bird has been sick. Remove all the feathers, including pin feathers, at once, taking care not to break the skin, and then "plump" by dipping for an instant into water almost boiling, and then into cold water. Hang up the fowl and allow it to get perfectly cold before packing.

Dry-picked poultry sells better if the picking is properly done, but it is more difficult to do well and takes more time. To dry pick properly, the work should be begun immediately after the bird is killed and while the blood is still flowing, as after the body gets cold it is almost impossible to avoid tearing the skin. In packing, the head may be placed under the wing, but the body and legs should be straightened out. Packages holding from 100 to 200 pounds sell most readily. The birds should be packed tightly to avoid any slipping in the package.

The best method of picking ducks and geese is to steam them. If this is impracticable, they may be dipped into very hot water the same as chickens and turkeys, but must be kept in a trifle longer, as the feathers are more difficult to loosen. It does not pay to pick them alive for the sake of saving the feathers, as the small profit derived from them is more than lost on the sale of the birds, the result being so to inflame the skin as to greatly injure the sale. Leave the head and upper portion of the neck unpicked and the legs and feet intact. Sometimes the feathers are left on the first joint of the wing and on the tail. Never singe ducks and geese, as it leaves the skin oily and uninviting. Unless your birds look clean and attractive, don't ship either ducks or geese to market. If poorly prepared, they are more than likely not to bring transportation charges.

Game.—Great care must be exercised in preparing game for market. Unless it is to be "iced" it should never be drawn. Prairie chickens, quail, partridge, and woodcock are best wrapped, each separately, in a piece of clean paper before packing and then packed in barrels. Nothing should be done to wild turkeys and ducks but to pack them neatly, the former in boxes, the latter in barrels. Shot injures the sale, and for that reason trapping is preferable when practicable. When birds are badly shot they are more liable to spoil, and for that reason should

be packed separately. In shipping venison, remove liver and lights, and when sending only the saddles, wrap them in the skin of the shoulders and neck, which keeps them clean and attractive.

MEATS AND POTATOES.

Lambs.—Commission men usually find good demand for lambs from September to July 1, but during July and August the trade is monopolized by the packers. In preparing lambs for market the head and hoofs should be left on, as well as the pelt. The lamb should be split down, the belly, the entrails, etc., removed, the caul fat not removed, but drawn over the kidneys, which should never be disturbed. It is customary to leave the lights in during the cold weather, but to remove them in warm weather. The lamb being dressed, it should be "set back," which consists of placing two sharp-pointed sticks of even length at the back in the shape of an X, the edges of the skin being caught back on the points, thus leaving the inner surface exposed to a free circulation of air. The law prohibits boxing or otherwise inclosing, but coarse muslin is often drawn over the open side.

Veal.—In dressing veal, the calf should be split from throat to tail, and everything but the kidneys, which should not be disturbed, removed. The lights should never be left in. The head and feet should also be removed. The dressed calf must not be boxed or otherwise inclosed, though some express companies require a piece of muslin to be tied over the neck.

Potatoes.—Potatoes are usually sold in bulk and shipped loose in cars. Probably that does very well for the main crop, although new potatoes which are really early are usually shipped in barrels, a little later in sacks, and finally in bulk. Some receivers, however, claim that if properly done it will always pay to sack potatoes. Their reason is that sacking obviates the possibility of what is technically known as "skinning," which consists of rejecting as unsalable the small potatoes in a car. The purchaser of a car reserves the right to reject all tubers so small as to be unsalable, paying a stipulated price per bushel for only such as are accepted. As a result of this reservation, the shrewd buyer has come to reject many tubers which are not actually unsalable, and while paying a fair price for a mixed lot, he actually rejects so many small ones that in reality he gets potatoes that should be rated "extra fancy." The rejected potatoes must be disposed of for little or nothing, and the practice entails injustice and loss to both shipper and commission merchant. If the potatoes were sacked there would be no opportunity for "skinning."

On the other hand, sacking offers a serious temptation to the shipper to put in all the small or damaged tubers. This would of course prove a money-losing procedure, as the price would run so low as to deprive the shipper of a fair return. Just how many or how small potatoes it will pay to put into the sacks it is impossible to say. Certain it is that

it will not pay to include tubers so small that the housewife would consider them "not worth the peeling," but the exact line can only be learned from experience and observation. "Facing" the barrels seldom pays, but it is wise to put on top nice clean potatoes, which will show the average size throughout the barrel. When shipping long distances to the early market, it will not pay to ship anything but the largest, finest tubers. Some shippers in their desire to reach the market early do not wait for the product to ripen, and the consequence is slipped skins and loss.

Very early new potatoes sometimes sell well when shipped in clean 3-peck boxes. A well-ventilated car is an important desideratum. An almost air-tight car will often ruin the contents. Boxes and barrels should also be well ventilated.

Don't dig potatoes immediately after a rain and don't let them lie in the field, as the sun heats them and promotes decay. They should be cool and dry when packed.

SMALL FRUITS.

Strawberries.—There is no more universally popular fruit than the strawberry, and none that yields a steadier profit. The most popular packages are the 16-quart (fig. 2), 24-quart, and 32-quart cases. The choice of size is regulated largely by the location, Florida favoring the 32-quart case, the South generally the 24-quart case, and Racine, Wis., and Michigan the 16-quart case. Many commission merchants favor the 32-quart Gift crate, and believe it is not only the best

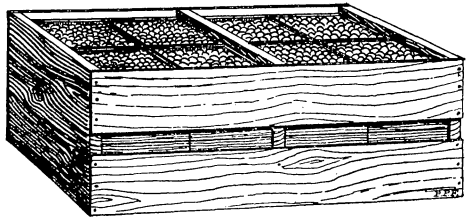


FIG. 2.—Sixteen-quart case.

for all purposes, but that it will eventually supplant the other cases. It is a light crate with hinged cover, containing 32 quart baskets. The baskets being smaller at the base than at the top, perfect ventilation is secured. The entire appearance is neat and attractive, and the use of the basket entirely obviates the housewife's objection to the necessarily raised bottom of the ordinary boxes (fig. 3). The 32-quart Gift crate (figs. 4 and 5) is particularly popular on the Eastern market.

It should hardly be necessary to urge the importance of great care in packing so perishable a fruit as the strawberry, but experience demonstrates that it is. Men, women, and children are employed to pick the crop. These need the most careful supervision; otherwise bird-eaten berries, green berries, and leaves, in fact everything that will help to fill up the package, are likely to find their way into the boxes or baskets.

Mulching of strawberry beds should be thoroughly done. Not only is it a help to the fruit, but it keeps it clean, a decided advantage when it comes to market. Some growers are most eager to pick immediately

after a heavy rain, but it does not pay. The berries are larger and finer looking when picked, but by the time they reach the market they are apt to be soft and mushy.

There is one point which can not be emphasized too strongly, and which every shipper should thoroughly understand, and that is that decay produces heat and heat produces decay—that is to say, that one box of badly decaying berries may ruin a case or possibly a car. Actual contact, contrary to the generally received opinion, is not necessary. Let one crushed berry begin to decay and immediately it gives off heat like a smoldering fire, the decay increases, generates more heat, and this heat, not contact, produces decay in another package. If the condition of the berries is conducive and the ventilation poor, the temperature of the entire car may be raised to a point where nothing will with-

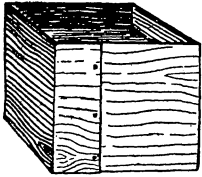


FIG. 3.—Quart box adapted to 16-quart case, inverted to show raised bottom.

stand it, and the entire car load on arrival at its destination be found a working, fetid mass, only to be disposed of as refuse.

Red raspberries.—After strawberries, red raspberries are probably our most popular small fruit, and usually bring fair returns, but they are very perishable and require the best care, while they are not suited for the longest hauls. They should always be shipped in the flat case, containing 24 pints, as they are crushed by their own weight when packed in quart boxes. The remarks in regard to the packing of strawberries apply equally to this crop.

Black raspberries.—Because of their size and the number of seeds contained in these berries, they are not as popular as the other small fruits, but there is usually sufficient demand to carry off at remunerative prices all that are grown. The case containing 24 pints seems to be the package preferred, although black raspberries, like strawberries, carry well in quart boxes.

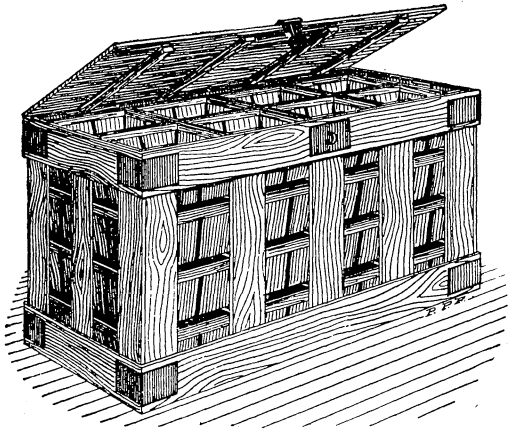


FIG. 4.—Thirty-two quart Gift crate.

Blackberries.—Because of their opportuneness, following as they do immediately after raspberries, as well as because of their excellent intrinsic qualities, blackberries are a deservedly popular fruit. They are so juicy, however, as to require great care in packing. Either the 24-quart or 32-quart case may be used, but the berries should be

picked before they are fully ripe, while the flesh is still firm, as they sour very easily, and the juice from a few crushed berries will sometimes sour an entire consignment in a single night. They do not make profitable long shipments.

Currants.—Currants are always popular, ship well, and usually meet with ready sale. They may be packed in 24-quart or 32-quart cases, or they may be shipped in half-bushel drawers in stands of four drawers, but the quart boxes are always standard, especially for long shipments.

Gooseberries.—Gooseberries usually find ready sale, and when picked and shipped green, as commonly done, stand shipment well. They should be picked when fully grown, but before they begin to turn color.

Whortleberries, or huckleberries.—These should be packed in 24-quart cases. They are frequently sent to market only partially ripe and prove a total loss. When green berries are mixed with the ripe it injures the sale. Only ripe, good-sized berries will pay for shipping.

Blueberries.—These require careful sorting, all poor berries being thrown out, green or overripe berries greatly injuring the sale. The quart box is standard, the 24-quart case being the favorite.

Cherries.—Several varieties of this delicious fruit are easy to ship, being good travelers and permitting a little premature cropping, as they will ripen after picking. Thus picked a little before full maturity, the excessively small or unsightly ones rejected so that each package will present an attractive appearance and exhibit on close inspection comparatively uniform size and freedom from spots or discoloration, cherries of the best flavored varieties are almost sure to find a ready market. They may be marketed in the usual 24-quart or 32-quart case, though the Climax basket will also be found a suitable and popular package. Cherries will travel fully as well as if not better than plums; hence the larger size of the Climax (one-fifth bushel) is unobjectionable.

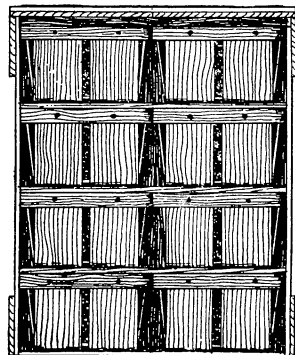


FIG. 5.—Interior section view of 32-quart Gift crate.

APPLES, PEACHES, PEARS, ETC.

Apples.—This, the standard fruit of the country, is extensively grown, and, while at times prices rule very low, it always finds sale at some price, usually a fair one. However, the competition is so keen that it never pays to ship inferior fruit, windfalls, or bruised apples. Picking should be carefully done by hand. Barrels are the standard package, but for very early arrivals, when the price is still high, one-third and one-half bushel boxes may be used with profit. Use only good barrels; poor barrels are poor economy. Examine every barrel care-

fully before packing, tightening all hoops and using short nails. Secure with "liners" top and bottom. In packing shake the barrel frequently, so that the fruit will settle solidly and leave no room for shifting and bruising. Every barrel should be faced, but the facing should be properly done, in order to make the barrel look attractive, but not to deceive. The object of this facing is to have two flat layers at the top, stems upward. Select nice, bright, smooth fruit for the purpose, but the size of the apples used for facing should be an accurate indication of the average size of the entire contents of the barrel. The facing is done first in packing the barrel, the first two layers being put in the bottom, stems down, this becoming the top when opened. The head is best put in with a screw press. When practicable, apples should be packed by an experienced workman. The stencil marking

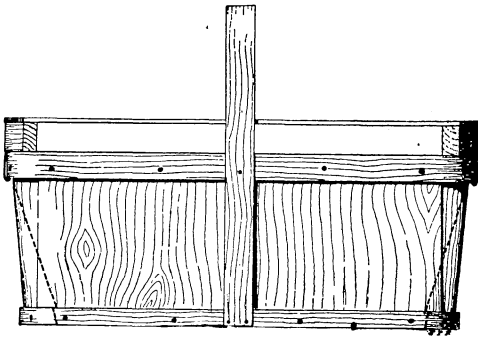


FIG. 6.—One-fifth bushel Climax basket.

should be placed on the top, the stenciling carefully done, and the variety plainly indicated. The neat appearance of the barrel often makes quite a difference in the price obtained. Stenciling should always be done on the faced end, as it marks the top, which commission merchants always open.

Peaches.—These are extremely popular, and when properly ripened find ready sale, but every season sees numerous arrivals which bring little or nothing above transportation charges. They come to market small, green, hard, and often speckled.* Needless to say such shipments don't pay.

The one-third bushel box is in common use. It should be placed on its side and the fruit packed in even rows along the side, each row being properly filled out. The result will be even rows to be seen from every opening, no slipping and no bruising. The box should be well filled and the cover nailed on securely with short nails. The steeple basket is still popular in the Baltimore and Delaware districts, but is being superseded in the West by the box.

A package very largely used in Michigan for peaches, and growing rapidly in favor in Western markets, is the one-fifth bushel Climax. This, of most convenient size and form (see fig. 6) for handling and in shipping, offers many advantages over the steeple basket; indeed, it can be so stacked as to economize space almost as much as the one-third bushel box, and what little extra space it may occupy is compensated for by superior ventilation. Many millions of bushels of peaches were handled in these baskets last season. Like the 10-pound Climax grape basket, this one-fifth bushel basket has a fraudulent competitor—the

one-sixth bushel basket—which can only be distinguished from the former (one-fifth bushel) by an expert or by actual comparison of the two baskets. The only difference between the two is in the slope of the ends. Height, breadth, lateral slope, and breadth both top and bottom are all just alike, but the one-sixth bushel has an end slope which reduces the length of the bottom one inch at each end (see dotted lines, fig. 6). This is absolutely the only difference; hence the one-sixth bushel is often found masquerading as a one-fifth bushel in the hands of dishonest producers or dealers. Fig. 7 shows shipping crates and baskets in use in different sections of the country.

Pears.—These should ordinarily be handled the same as peaches, the one-third bushel box being the proper package, though when they are

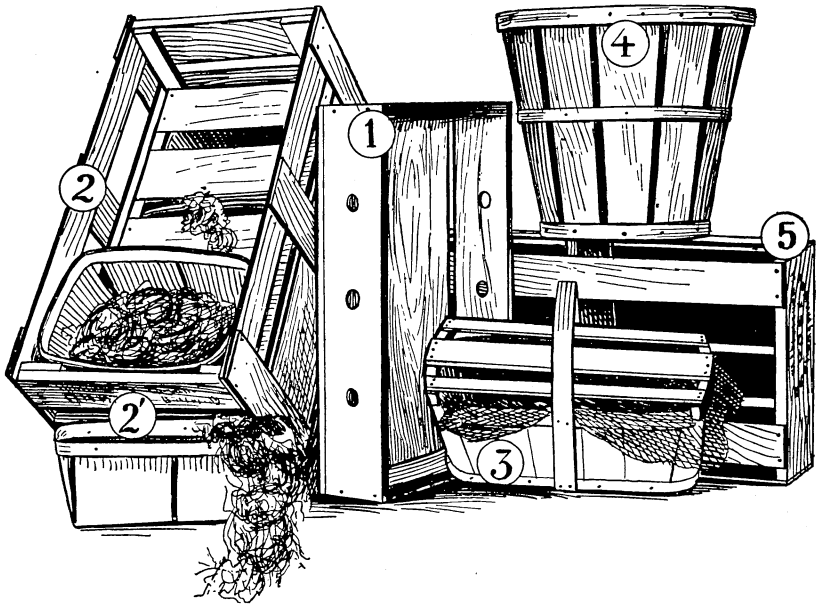


FIG. 7.—Peach crates and baskets: 1, California; 2, Florida; 2', single basket from same; 3, Michigan; 4, Delaware; 5, North Carolina.

extensively grown and in the height of the season barrels may prove more economical. Barrels may be faced as directed for apples. The fruit should be allowed to attain full size but not to ripen fully, as when perfectly ripe it is too mellow for safe handling. It will finish ripening in transit.

Plums.—Plums should be shipped before fully ripe, as after fully ripened they are bad keepers. They ripen well in transit. The best and safest package is the 24-quart strawberry case, as decay operates very rapidly in larger packages. The one-third bushel box is sometimes used, however, and, if the fruit is of uniform ripeness and not too ripe, answers very well. Needless to say fruit may be shipped riper by express than by freight. Damson plums are most usually shipped in

one-third bushel boxes and are in most demand late in the season. Plums are largely marketed in Climax baskets both in Chicago and New York. Bushel baskets are also used largely, as well as half-barrel kegs.

Quinces.—Unlike other fruit, the demand for the quince comes late in the season. They are almost always used for preserving, and housewives prefer to put them up after the hottest weather is over. One-half or 1 bushel boxes are most used, although they can be shipped in barrels. Pick when full grown, but before they show much color. Barrels may be faced like apples.

Grapes.—In the West the demand for this crop seems to be growing. Packing cuts an important figure, and can only be learned by experience. Absolute solidity, the least possible disturbance of the bloom, and general neatness are the objects striven for. The package for grapes is the 10-pound basket with wood cover affixed by wires at each end. Several others are used, but none can compare with the 10-pound basket for desirability, unless it be the 9-pound Climax basket, which is practically as good. Grapes should be handled as little as possible, so as not to disturb the bloom; they should be packed stems downward and the package filled quite full. The cover is then pressed down firmly, the result being that when the cover is removed an even, stemless surface is presented. Before packing, the scissors should be freely used, and all green, overripe, shriveled, or otherwise imperfect grapes removed. Large bunches are, of course, most attractive.

Watermelons.—These are easy to ship and require little care, but much money is lost by shipping too green. Being too heavy to come by express, fast freight must be relied on. A cattle car is the best, as it gives perfect ventilation, but the sides should be loosely planked to prevent theft and plugging. The consignee should invariably be advised of the shipment and number of melons and total weight distinctly stated. The demand for watermelons always falls off with cool weather.

Muskmelons.—There is always a good demand for muskmelons, cantaloupes, etc., if they are sufficiently early, but later they usually become a drug on the market. Any reliable commission merchant in the market to which you expect to ship will advise you as to how late they can be handled with profit.

If packed when just full grown they will arrive in prime condition even after forty-eight to seventy-two hours' travel. Care must be taken to avoid bruising and to exclude all melons bruised, overripe or otherwise marred. Remember that one overripe or bruised melon may ruin a crate, and a few of them will spoil the sale of a car load. The best package is the regular melon crate, holding from two to three dozen, according to size. There is a good demand for Gem melons in half-bushel bail baskets (that is, with handle). Barrels may be used to advantage, but should be thoroughly chipped to insure ventilation.

Artichokes.—There is a good and growing demand for artichokes in the East, and as far west as Chicago and St. Louis, both of which cities could use more than they now receive, although the demand for them as far west as Chicago is of comparatively recent growth. At the present time the supply comes largely from the East, and there is a field for the gardener in this direction in the West. Farther west the demand is not yet developed, but it is safe to predict that it soon will be. The bushel box well filled is the usual package.

Asparagus.—The demand for fine asparagus seldom fails, although, as with everything else, an oversupply occasionally depresses the market below a profitable price. It requires especial care in its preparation for market. Only fine, perfect stalks should be shipped. They should be neatly tied in bunches of even size and length. The bunches should be from 4 to 5 inches in diameter and 7 to 9 inches long, smaller bunches being usual very early in the season, or when the crop is short. They should be tied at each end, raffia¹ being the best material for the purpose. It should be packed in boxes holding a dozen or more bunches and a trifle deeper than the length of the bunches, soft paper or moss being filled in above the soft tops to protect them when the boxes are turned upside down. Bunches should be packed tightly enough to prevent slipping and consequent bruising. The box usually used is well ventilated and has a partition in the center which gives stiffness.

A new package, and one that promises to supersede all others, is a carriers' box about the size of a half-bushel box, which will hold 2 dozen bunches, the box being filled with pasteboard partitions, similar to those used in egg cases, dividing the box into 24 compartments. This gives to each bunch its own compartment, and so obviates the necessity of squeezing to avoid slipping and bruising.

Beans.—Beans are so easily grown, require so little care, and accommodate themselves to such a variety of soils that they are hardly to be ranked among the most profitable crops for a near-by market, but for distant points, when they can be gotten into the market early, they are a reliable and paying product. There are numerous varieties, but generally speaking the round sell better than the flat varieties, having more snap and fewer strings.

The wax bean usually sells at better prices than either, but the demand is not as extensive, and sometimes an oversupply breaks the market.

Dryness and coolness are essential in packing, as they heat and mold readily. While frequently shipped in 3-peck and bushel boxes, they would keep better in one-third or one-half bushel boxes. A one-

¹This is an imported tying material obtained from the Raffia palm (*Raphia ruffia*) of Madagascar. It resembles bass-bark, but is stronger and more pliable. It comes in braids of thin strips, one-half to three-fourths of an inch wide and 3 to 4 feet long. These braids weigh from 1½ to 3 pounds each, and can be bought of dealers in supplies for nurserymen and florists.

third bushel box, with beans placed across the openings to prevent any dropping out, makes a neat and attractive package and one that keeps well.

Beets.—Beets pay fairly well. They should be tied in bunches of from 6 to 9, the tops being cut back one-half. If dirty, they should be washed by being swished around for a minute in a tub of water, but should not be packed until dry. Half bushel and bushel boxes make the best packages, although thoroughly ventilated barrels may be used.

The “thinings,” or small first leaves, from beets, pulled when the tops are not larger than a slate pencil, usually find sale at a price which will not only pay for shipping, but for the labor of thinning, and as the latter is a necessity anyway, it pays to ship them. They are used as greens.

As a rule, the greatest profit may be derived from shipping the roots while still quite young, as the “fancy” demand, which pays the best prices for everything, generally prefers the little tender beets, and as they are earlier they naturally bring the best prices. When properly ventilated they ship well.

Brussels sprouts.—There is good demand for this vegetable at profitable prices, and the Chicago market could use to advantage more than it now receives. Their cultivation in the West is at present by no means extensive, Western gardeners not giving them the attention they deserve. The quart basket in carrier crate makes the best package.

Cabbage.—This crop is a regular standard with market gardeners, and is usually to be found on the market all the year round. Naturally the early supply pays best, and even after the cost of a considerable freight is defrayed a fair profit generally remains. To secure all the profit there is in it, care must be exercised in packing and shipping. Only solid, clean heads should be shipped, the outside leaves and stems having been removed. It is best packed in 1-barrel crates, and should be packed tightly, as the shrinkage is considerable. Care should also be exercised in packing the car as, especially in hot weather, it heats and decays unless ample ventilation is given. Do not fail to mark plainly on the outside of each package the number of heads it contains.

Carrots.—The remarks under the head of beets will apply equally well to this crop. In the early season they should be bunched and packed in boxes, but the main crop comes to market in barrels. Those bunched should have the tops cut back one-half. Those barreled should have the tops removed, and all should be fairly clean and bright.

Celery.—Under ordinary circumstances good celery always finds ready sale, usually at fair prices, though not always at prices the grower would like to receive. It should be bright and well blanched, rusty and spindling heads always being neglected when the supply is good. The localities in which it is grown use various-sized boxes, the essentials being a flat package tightly packed. A box holding from 6 to 12 dozen seems to meet with most favor.

Corn.—Sweet corn comes to market in all sorts of packages, but the bushel sack is most used. It should be shipped when just at the right degree of ripeness, and all old ears rejected. When possible, let the ears in each package be of uniform size and variety, a medium-sized ear being received with much favor. Every effort should be made to get it into the market early, as the heavy supply late in the season often brings prices down to transportation charges.

Cress.—Water cress always commands a good price and is one of the most profitable crops, particularly for the Eastern markets, where the demand is much more strongly developed than in the West. It is usually tied in small bunches, perhaps 4 inches in diameter at the top, and then packed standing in 3-quart baskets. The 6-basket peach or tomato crate makes a good package. It is also packed in layers in ventilated barrels, but the baskets will more than repay their cost.

Cucumbers.—These are a profitable crop, particularly in the South. They should be snugly packed in boxes or ventilated barrels, all over-ripe or otherwise imperfect specimens being rigidly excluded. If the cucumbers are cut from the vine instead of pulled, they will keep better and the vine suffer less injury than if they were pulled. Do not fail to mark each package plainly with the number it contains. There is usually a good demand for the small and sometimes for large cucumbers by the pickling factories in neighborhoods where they exist, but the prices they pay are small, and when the retail market is not overstocked it will give better returns.

Cauliflower.—This vegetable usually finds ready sale at good prices, particularly early in the season. Although really easily grown, the majority of gardeners believe it difficult to raise, and the result is generally a supply hardly equal to the demand. In preparing for market remove all but the tenderest leaves, cut the stem to within 1 inch of the head, and pack in flat, light crates, but one layer deep. Crates holding from 1 to 2 dozen, according to size, make the best packages.

Eggplant.—For the near-by market, or for distant points where fast freight is available, this proves a profitable product. While its tenderness renders it a precarious crop in the hands of the inexperienced, it is reasonably certain in the hands of those who have learned to care for it properly. The average plant produces from six to nine full-sized fruits, which generally sell for an average price of \$1 per dozen. Full-grown, unblemished fruit, firmly packed in well-ventilated barrels or boxes, usually finds ready sale.

Endive.—This is a salad plant, which is comparatively new to Western markets, and which still finds readiest sale in the East, but the Chicago market is gradually learning to appreciate it, and its sale will doubtless increase in the near future. As it is, a small supply of choice plants finds ready sale at fair prices. It must be large and fine and thoroughly blanched to obtain top prices. It may be shipped in boxes or barrels, the number of heads being plainly marked on the package.

Horseradish.—This is a particularly profitable crop when properly grown, which is the case in comparatively few sections, New York and New Jersey gardeners having the best method. They grow it only as a second crop, following cabbage or some other early vegetable. It is grown from the small shoots trimmed from the main root when preparing it for market, and is usually dug in the late fall, even as late as December, if the weather will permit. The small roots are cut into pieces from 4 to 6 inches long, which are planted in the spring in holes so deep that the top of the set is at least 3 inches below the surface. These, by late fall and early winter, make long, smooth roots, which are most salable. In preparing for market, the small roots are trimmed off and preserved for next year's set, the main root only being sold. It should be not less than 8 inches long and $1\frac{1}{2}$ inches in diameter, and will, if grown as above, often be much larger, while having grown but one season the tough stringiness of older roots will be avoided. It is shipped during the winter months in barrels, but is usually sold by the pound, bringing all the way from \$50 to \$70 per ton.

Lettuce.—This crop is a paying one for home consumption, but most markets are supplied by local growers, so that long shipments seldom pay. Most of the large markets get home-grown lettuce the year round, it being easily and cheaply grown under glass. There are also around many of the best markets what are known as "salad patches," where practically nothing but lettuce is grown. With the aid of hot-beds and cold frames four crops a year are grown on these "patches," and often bring a return of \$1,800 per acre. It must be remembered, however, that the rental of these "patches" is often equal to \$250 per acre—not an exorbitant rental for land worth often as much as \$100,000 per acre; and other expenses, particularly labor, so reduce the profits as to leave but a fair return for very hard work.

All this, however, goes to prove that except under peculiarly well adapted circumstances lettuce is not a profitable crop for the farmer, or even the average trucker.

In the East the demand is almost exclusively for head lettuce, and that sells best in Chicago, while curled lettuce finds ready sale in other Western markets. Small, leafy, or discolored heads not only do not pay, but frequently fail to bring carrying charges. It is best shipped in $2\frac{1}{2}$ -bushel barrels. It is a curious and not easily explainable fact that the Chicago market receives the bulk of its winter supply of lettuce from the vicinity of Boston, where it is grown under glass. The same is true of cucumbers, etc. Why local gardeners do not supply this trade, and so save for themselves the long-haul transportation charges, is not easily understood.

Mushrooms.—In winter and early spring there is a good demand for mushrooms in all markets from Chicago eastward. The month of February usually brings best prices. The crop may be grown indoors during the winter months, and with a little experience ought to bring hand-

some returns for the labor expended.¹ Large, fine specimens find ready sale at profitable prices. Quart and 2-quart baskets, crated, make the best packages, while some use the Climax grape basket.

Okra, or gumbo.—This vegetable is grown chiefly in the South, and there is a fair demand for a limited supply. The small green pods, from 1 to 1½ inches long, find readiest sale. They are shipped in one-third bushel boxes, which sell from 50 cents to \$1 per box, according to the season. Long, stringy pods are unsalable.

Onions.—After cabbage there is no better paying crop for the market gardener. They sell well either in the green state, in bunches, or ripened, on the early market in boxes. The green onions should be tied in bunches about 3 inches in diameter and packed crosswise in one-third bushel boxes. The ripened onion, which is grown more extensively on farms, entire farms often being devoted to their culture, are shipped in bushel boxes, sacks, and barrels. The red or yellow onions stand shipment best. There is also considerable profit in growing onion sets, which usually find ready sale at good prices.

Parsnips.—The demand for parsnips is best in winter, and in the Southern States they are allowed to remain in the ground until wanted, while in the Northern States they are dug in late fall and stored in trenches. They are shipped in small ventilated barrels, the tops having been removed and the roots washed when necessary.

Peas.—This is a profitable crop, being usually a first crop and out of the way in time to permit a late crop started in cold frames to be matured on the same ground. Peas require great care in handling. They must not be picked too early or until the pods are well filled. They heat and mold readily, and should therefore be cool and dry when packed. The one-third bushel box is the proper package, larger packages giving insufficient ventilation. The shipper should see that, while ample ventilation is given, the interstices in the boxes are not large enough to permit the peas to drop out. As they shrink considerably, they should be snugly packed, the boxes slightly heaped and the cover brought into place with light pressure. The earliest on the market always bring handsome returns.

Radishes.—Radishes are generally a sort of “catch” crop, being sown at the same time as and between the rows of slower-growing vegetables. As a rule, they are out of the way within six weeks from the time of planting. They must be packed with care, as a few crushed leaves will often spoil an entire package. They should be washed and dried, tied in small bunches, and are best packed in one-third bushel boxes, snugly enough to prevent shifting, but care being taken to avoid crushing the leaves. Yellow or coarse leaves should be removed. The long red and French breakfast shapes find readiest sale. Pithy roots should never be sent forward. Thoroughly ventilated packages are, of course, essential.

¹ Directions for culture, etc., are given in Farmers' Bulletin No. 53, U. S. Department of Agriculture, How to Grow Mushrooms.

Rhubarb.—Rhubarb, or pieplant, finds ready sale at fair prices, and in the early spring brings handsome returns; but it must reach the market early to obtain the best. It is so easily grown that even at low prices it pays a fair profit, while in some instances \$250 net profit per acre is obtained. It is easily forced and can be so obtained and marketed at a handsome profit from January to April, when the roots can be spared; but as forcing kills the roots it is customary to use only the surplus for this purpose. The leafstalks should be pulled, not cut, from the plant, most of the leaf cut off, and the stalks bound into secure bundles, tied at each end. The 50-pound box is the usual package. The box should be closely packed.

Spinach.—As this is another "catch" crop, it frequently pays well. It is usually sown between the rows of more slowly maturing vegetables, and may be cut four or five weeks after sowing; or else it is sown in the fall, the "thinnings" marketed late in the fall, and the main crop mulched and cropped in early spring. When grown on sandy soil, a light mulch of hay or straw will keep the sand out of the heads and make them more attractive. It is packed in barrels, the small 2½-bushel barrel being the best size. The barrels should be ventilated and the tops covered with burlap.

Squash.—Squash pays a fair but not a big profit. The White Bush Scaloped is the best summer variety and the Hubbard the best late squash. The Summer Crookneck, while very prolific, is not suited for marketing purposes. In some markets, the East and St. Louis, for instance, it will not sell at all, and in Chicago and other markets it is apt to be neglected when the Scaloped is to be had. The hard rind fits both the first-named varieties for shipping. The bushel box is the proper package, although small barrels answer well. For long shipments it pays to wrap each squash in coarse brown paper.

Sweet potatoes.—This crop is usually grown with profit in its northernmost limits, but frequently fails to pay the far Southern shipper, as comparatively near-by growers supply the Northern markets with a fresher and more acceptable product. As it is a bulky article it will be well to post yourself on the market before shipping. Early offerings usually come in one-half and bushel boxes; later they come in barrels.

Tomatoes.—Early tomatoes, properly handled, are usually quite profitable. None but smooth, bright, medium-sized fruit, not too ripe, should be sent forward. It is a fact worthy of note that southern Illinois shippers of this vegetable have established such a reputation by the uniform excellence of their shipments that in Western markets they always command the top of the market. The package they use is the one-third bushel box. There is a good profit in tomatoes for Southern shippers. Florida has already established an enviable reputation. Florida shippers use six-basket carrier crates, holding about 3 pecks (the same the State uses for the shipment of peaches, shown

in fig. 7, No. 2), and wraps each tomato in some bright-colored paper. While this entails considerable labor, it pays, especially for long-distance shipments. As tomatoes are very susceptible to injury, the most rigid care should be used in excluding all unripe or otherwise unsound specimens.

Turnips.—Turnips, either very early or late, in either case making but one of two crops taken from the same ground, usually bring fair returns. The early crop should be bunched, etc., the same as beets, while the late crop is packed in bushel boxes or barrels.

HONEY.

Western producers usually market their honey extracted, while Eastern producers sell it in the comb, each being governed by the local demand. It is almost needless to say that white clover honey brings the highest prices. Basswood ranks next. The comb honey of course brings highest prices, but whether comb or extracted honey pays best is an open question. As much of the extracted honey is adulterated by the time it reaches the retailer, it would seem that there must be a considerable field for producers who have the output and the ability to build up a trade in guaranteed pure extracted honey sold under their own brand and seal; but to do so would, of course, require the use of smaller packages than they use when selling to the dealer or consigning to the commission man.

The invariable package for comb honey is the 1-pound frame. These are shipped in cases holding either 12 or 24 frames and having glass fronts. Some producers use homemade shipping cases, but the attractiveness of the manufactured case with glass front usually brings an increased price more than sufficient to compensate for the extra expense. A sheet of paper a little larger than the bottom of the case should be first placed in the case with the edges turned up, forming a tray to catch the drip. On this light cleats should be tacked, on which the frames rest and which hold the latter above and out of the drip. These cases, if sent by freight, should be crated together, making a convenient size. In the bottom of the crate straw or chaff should be placed, while projecting boards on the sides to serve as handles will insure more careful handling.

For the retail trade various glass jars, etc., are used, and attractive pasteboard cartons are also used to some extent. Extracted honey is usually shipped in square tin cans holding 5 gallons each, and these are boxed for shipping either singly or, more often, two in a box. Tin pails of various sizes and having screw tops are also used.

FARMERS' BULLETINS.

These bulletins are sent free of charge to any address upon application to the Secretary of Agriculture, Washington, D. C. Only the bulletins named below are available for distribution:

- No. 15. Some Destructive Potato Diseases: What They Are and How to Prevent Them. Pp. 8.
- No. 16. Leguminous Plants for Green Manuring and for Feeding. Pp. 24.
- No. 18. Forage Plants for the South. Pp. 30.
- No. 19. Important Insecticides: Directions for Their Preparation and Use. Pp. 20.
- No. 21. Barnyard Manure. Pp. 32.
- No. 22. Feeding Farm Animals. Pp. 32.
- No. 23. Foods: Nutritive Value and Cost. Pp. 32.
- No. 24. Hog Cholera and Swine Plague. Pp. 16.
- No. 25. Peanuts: Culture and Uses. Pp. 24.
- No. 26. Sweet Potatoes: Culture and Uses. Pp. 30.
- No. 27. Flax for Seed and Fiber. Pp. 16.
- No. 28. Weeds; and How to Kill Them. Pp. 30.
- No. 29. Souring of Milk, and Other Changes in Milk Products. Pp. 23.
- No. 30. Grape Diseases on the Pacific Coast. Pp. 16.
- No. 31. Alfalfa, or Lucern. Pp. 23.
- No. 32. Silos and Silage. Pp. 31.
- No. 33. Peach Growing for Market. Pp. 24.
- No. 34. Meats: Composition and Cooking. Pp. 29.
- No. 35. Potato Culture. Pp. 23.
- No. 36. Cotton Seed and Its Products. Pp. 16.
- No. 37. Kafir Corn: Characteristics, Culture, and Uses. Pp. 12.
- No. 38. Spraying for Fruit Diseases. Pp. 12.
- No. 39. Onion Culture. Pp. 31.
- No. 40. Farm Drainage. Pp. 24.
- No. 41. Fowls: Care and Feeding. Pp. 24.
- No. 42. Facts About Milk. Pp. 29.
- No. 43. Sewage Disposal on the Farm. Pp. 22.
- No. 44. Commercial Fertilizers. Pp. 24.
- No. 45. Some Insects Injurious to Stored Grain. Pp. 32.
- No. 46. Irrigation in Humid Climates. Pp. 27.
- No. 47. Insects Affecting the Cotton Plant. Pp. 32.
- No. 48. The Manuring of Cotton. Pp. 16.
- No. 49. Sheep Feeding. Pp. 24.
- No. 50. Sorghum as a Forage Crop. Pp. 24.
- No. 51. Standard Varieties of Chickens. Pp. 48.
- No. 52. The Sugar Beet. Pp. 48.
- No. 53. How to Grow Mushrooms. Pp. 20.
- No. 54. Some Common Birds in Their Relation to Agriculture. Pp. 40.
- No. 55. The Dairy Herd: Its Formation and Management. Pp. 24.
- No. 56. Experiment Station Work—I. Pp. 30.
- No. 57. Butter Making on the Farm. Pp. 15.
- No. 58. The Soy Bean as a Forage Crop. Pp. 24.
- No. 59. Bee Keeping. Pp. 32.
- No. 60. Methods of Curing Tobacco. Pp. 16.
- No. 61. Asparagus Culture. Pp. 40.
- No. 62. Marketing Farm Produce. Pp. 28.
- No. 63. Care of Milk on the Farm. Pp. 40.
- No. 64. Ducks and Geese. Pp. 48.
- No. 65. Experiment Station Work—II. Pp. 32.
- No. 66. Meadows and Pastures. Pp. 24.
- No. 67. Forestry for Farmers. Pp. 48.
- No. 68. The Black Rot of the Cabbage. Pp. 22.
- No. 69. Experiment Station Work—III. Pp. 32.
- No. 70. The Principal Insect Enemies of the Grape. Pp. 24.
- No. 71. Some Essentials of Beef Production. Pp. 24.
- No. 72. Cattle Ranges of the Southwest. Pp. 32.
- No. 73. Experiment Station Work—IV. Pp. 32.
- No. 74. Milk as Food. Pp. 39.
- No. 75. The Grain Smuts. Pp. 20.
- No. 76. Tomato Growing. Pp. 30.
- No. 77. The Liming of Soils. Pp. 19.
- No. 78. Experiment Station Work—V. Pp. 32.
- No. 79. Experiment Station Work—VI. Pp. 28.
- No. 80. The Peach Twig-borer—an Important Enemy of Stone Fruits. Pp. 16.
- No. 81. Corn Culture in the South. Pp. 24.
- No. 82. The Culture of Tobacco. Pp. 23.